

Office of the

CHURCHILL COUNTY COMMISSIONERS

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EIS001653

RECEIVED

February 16, 2000

FEB 23 2000

Ms. Wendy Dixon
EIS Project Manager, M/S 010
U.S. DOE
P.O. Box 30307
North Las Vegas, NV 89036-0307

RE: Comments to the draft environmental impact statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada (July 1999).

WENDY
Dear Ms. Dixon:

We appreciate the opportunity to review and provide comment to the Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada. Churchill County has numerous concerns about the analysis in the draft impact assessment.

- 1 First and foremost, we question whether DOE currently has the ability to accurately predict long-term performance of the repository and the environmental impacts associated with radiological contamination of area groundwater. DOE appears to reach conclusions in the DEIS which currently are not well supported by performance assessment models. Furthermore, up to 95 percent of waste containment may now be achieved through the waste package container, yet very little information about its long-term performance capabilities has been developed.
- 2 DOE provides no substantive details about the proposed action and no-action alternatives. Instead, the DEIS attempts to use inclusive boundary analysis to substitute for missing information and design attributes which have not been proven to work. Unfortunately, without a performance assessment capability, DOE cannot establish boundaries for various design alternatives. Although we recognize the need to maintain some flexibility for the final repository design, the description of the action in the DEIS is done in very generic terms and fails to adequately describe the waste management system associated with

- 2 cont Yucca Mountain. The no-action alternative (Scenario 2) is not realistic in that it assumes
3 no institutional control after 100 years while institutional control is proposed for as much
as 300 years at Yucca Mountain under the proposed action.
- 4 The FEIS needs to contain a strong worst-case scenario analysis. Currently, there are too
many uncertainties in the performance assessment process. It is highly likely that even at
the conclusion of the licensing process many uncertainties will still exist. DOE needs to
include a worst-case scenario examining the conditions under which the repository waste
containment would not achieve regulatory standards. This analysis should describe the
probability of occurrence, the likely consequences, and the inherent weaknesses of the
performance assessment process used in the DEIS. The FEIS should also clearly identify
the progress and or improvements of the performance assessment since the issuance of the
DEIS.
- 5 The cumulative impact assessment in the DEIS does not consider the past impacts from
NTS weapons testing programs, which affected downwind areas. The FEIS should
identify transportation's overall contribution to latent cancer fatalities particularly for
communities along proposed routes in downwind areas. DOE needs to assess the
probability of higher latent cancer fatalities in areas affected by above ground weapons
testing in the cumulative impact analysis.
- 6 The DEIS did not adequately review transportation impacts along proposed highway and
rail routes in Nevada. Instead, the DEIS relies upon unsubstantiated statements about
generic transportation impacts.
- 7 The DEIS does not consider the impact of underground weapons testing on regional
groundwater resources. Additionally, the impact assessment does not consider the
collective impact of all actions added together. Instead the analysis only looks at the
proposed action added to a single cumulative action. The approach taken in the DEIS is
inconsistent with Council on Environmental Quality (CEQ) regulations.
- 8 The DEIS does not propose any real mitigation measures. Most measures are related to
site selection, design and defense in-depth. The repository would not meet regulatory
standards without engineered design features. DOE should not treat these design features
as mitigation. We are also extremely concerned that DOE proposed no mitigation
measures for waste transportation, particularly in light of the latent cancer fatalities
associated with this program.

Ms. Wendy Dixon, EIS Project Manager, M/S 010
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Page 3

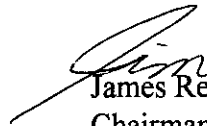
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Finally, it is clear from the analysis that the draft EIS needs to be reissued once a near final repository design is completed. The impact analysis associated with long-term performance assessment cannot be substantiated with a reasonable level of assurance at this time.

If you have any questions concerning these comments, please do not hesitate to call me at (775) 423-5136.

Sincerely,


James Regan
Chairman

JR:wg
Enclosure

**Comments to the Draft Environmental Impact Statement
for a Geologic Repository for the Disposal of Spent Nuclear Fuel and
High-Level Radioactive Wastes at Yucca Mountain, Nye County, Nevada**

Section 2.0

- 10 2.1 The proposed action is incomplete-The most important component of repository is its design. It is key to evaluating the probable future performance. At the completion of the Draft EIS, did DOE have a final design for the subsurface facilities? Are all the subsurface facility scenarios viable? Can they all be implemented with some basic assurances of the ability to meet long-term performance standards? If yes, please identify the appropriate means by which DOE has demonstrated each scenario's feasibility for this EIS. **The DEIS gives no indications of DOE's preferred design, why?**
- 11 2.2 Pg. 2-6 1st Par states " This EIS describes and evaluates the current preliminary design concepts for repository surface facilities and subsurface facilities, and disposal canisters (waste packages), and the currentand closure of the repository." The proposed action cannot rely upon conceptual subsurface designs when such designs have not been proven to work with any reasonable degree of assurance. There are no way to bound impacts when uncertainties about repository performance associated with the design exist. The proposed action for the DEIS must be based upon a near final design for the repository. Recently, DOE has all but abandoned the high thermal load scenario described in the DEIS. Why would DOE abandon a feasible subsurface design scenario? It is impossible to bound impacts of the EIS when DOE does not have the ability to predict performance without a reasonable degree of assurance in its future performance.
- 12 2.3 Can DOE actually select a surface facility design without the ability to predict future performance of one of the subsurface design alternatives? Does DOE have a final waste package design? **Should the designs in the DEIS vary much from the design submitted in the site recommendation report? What efforts has DOE made to coordinate the EIS process with the site recommendation report?**
- 13 2.4 If the subsurface design and performance is uncertain which leads to uncertainties about surface facility design scenarios, how can DOE select among one of its packaging scenarios?
- 14... 2.5 Pg. 2-6, 2nd Par states "The Department selected the implementing alternatives and scenarios to accommodate and maintain flexibility for potential future revisions to the design and plans for the repository". In other words, the proposed action is not adequately defined at this time. The DEIS should be withdrawn and reissued once a near final design is completed. **40CFR1508.23- Proposal exists at that stage in the development of an action when an agency subject to the Act has a goal and is**

- 14 cont. **actively preparing to make a decision on one or more alternative means of accomplishing that goal and the effects can be meaningfully evaluated.** Again, it does not appear that DOE currently has the ability to evaluate the proposal, particularly with respect to long-term performance. Furthermore, 40CFR1502.22(a) states, "essential information, if it is obtainable, must be included in the EIS". On page 2-86 clearly states that some information in the DEIS is incomplete and that some may not be available until after the DOE has issued the FEIS. These statements are not consistent with the requirements of 40CFR1502.22(a).
- 15 2.6 Is the surface facility design dependent upon transportation activities? If so please explain the relationship, which exists between the surface design scenarios and the selected transportation scenarios.
- 16 2.7 Pg. 2-9 Sec 2.1.1.3 As part of the proposed action, DOE needs to define a preferred transportation alternate because the type of cask used has facility design and cost implications for the program. Simply looking at a range of possible transportation modes does not adequately define the proposed action.
- 17 2.8 Pg. 2-10 Sec 2.1.1.5 2nd Par states, " This assessment...found that the changes in environmental impacts for the design options would be relatively minor in relation to the potential impacts evaluated in this EIS. This simply is not the case. The statement is untrue at best and is misleading. At the time the DEIS was issued, DOE did not have the analytical capabilities to predict such performance. This section needs to be rewritten to indicate the limitations for performance assessment or the DEIS should be reissued once DOE has improved capabilities in place to evaluate design alternatives.
- 18 2.9 Pg. 2-40 3rd Par. Discusses section 180(c) implementation. The Final EIS needs to describe how funding will be administered so that local emergency responders are adequately prepared and what assurance DOE will provide to achieve a level of preparedness. Furthermore, DOE needs to describe the appropriate level of preparedness for local jurisdictions as part of its proposed action.
- 19 2.10 Pg. 2-43 1st Par. Can the Navy ship by truck? If not, why not?
- 20 2.11 With respect to rail and truck shipment routes in the EIS, has DOE eliminated all other routes from consideration? If not, why not? If they are not eliminated should they be included in the DEIS?
- 21... 2.12 With respect to the selection of alternate rail corridors, Did DOE consult with the Bureau of Land Management in the selection process? Is the Bureau of Land Management a cooperating agency on this EIS? If not, why not? The authority to authorize a right-of-way along the majority of alternate corridors lies with BLM. The

- 21 cont. consideration and selection of an alternative rail corridor is one that should have, at a minimum, been shared with BLM.
- 22 2.13 With respect to possible modes and routes, what is the proposed action? Shipments by rail are different than truck. They take different routes; rail results in fewer shipments, less radiological risk, requires the construction of a rail spur to Yucca Mountain and ultimately has different costs associated with implementation. For these reasons, DOE needs to identify a specific modal option and provide analysis as to why one option is better than the other. The FEIS needs to select a preferred alternative.
- 23 2.14 Pg. 2-56 Sec 2.1.4 states, " This analysis used conceptual designs, which is typical of an EIS". Conceptual designs are not typical of an EIS when they have not been proven to work. It is appropriate to conceptualize designs, which are known to work such as roads, bridges, buildings, etc. However, DOE cannot currently demonstrate with any level of assurance which design may or may not meet regulatory standards. As of the date of publication of this DEIS can DOE demonstrate with a reasonable degree of assurance which design alternative will perform to regulatory standards? Subsequent to the release of the DEIS, has DOE dropped consideration of a hot repository? If yes, it does not appear that the hot repository design alternative was viable-its certainly brings into question the other as well. The FEIS should discuss changes to designs that have been made and how such changes improve performance.
- 24 2.15 Section 2.1.5 How can DOE estimate the cost of the proposed action when specific transportation modes have not been selected?
- 25 2.16 How can DOE select a no-action alternative then turn around on page 2-60 and indicate that the do not believe either scenario of the no-action alternative would be chosen? Please explain.
- 26 2.17 Scenario 2 is unrealistic in that it assumes no institutional control at a point where institutional control would continue at Yucca Mountain.
- 27 2.18 The No-Action Alternative (Scenario 1 and 2) essentially describes interim above ground storage conditions at the reactor sites. Would this same situation apply to waste held above ground at a centralized DOE facility? If not why not? It is also likely that DOE will have to take title to the waste if a repository does not open. Would DOE allow for loss of institutional control?
- 28 2.19 Page 2-60 1st Par states, "DOE recognizes that neither of these scenarios is likely to occur in the event there is a decision not to develop a repository at Yucca Mountain". Contrary to the statements further down in the paragraph, these scenarios are not realistic and neither is the No-action alternative.

- 29 2.20 Pg. 2-67 No-action alternative costs. How do these cost compare to other potential no-action alternatives such as reprocessing?
- 30 2.21 Pg. 2-81 First Bullet states, " Environmental Impacts for each of the 10 implementing alternatives will be small" How can DOE make this statement when site specific analysis for each route has not be completed?
- 31 2.22 Pg. 2-87 1st Par states, " The analysis in the EIS did not identify any potential environmental impacts that would be a basis for not proceeding with the proposed action. This is not the purpose of the DEIS. The proposed action is to construct, operate and eventually close a repository. The analysis of the DEIS needs to focus on the implementation of the proposed action. Can DOE implement the proposed action and not merely proceed with it?
- 32 **2.23 Pg 2-87 states that the Secretary of Energy is to undertake and complete site characterization activities at Yucca Mountain to provide information and data required to evaluate the site. How is this effort different from the information and analysis in the DEIS?**
- 33 **2.24 Pg. 2-87 identifies a preferred alternative but does not specify a final design. The central issue of the repository is the subsurface design including the engineered barrier system. DOE needs to identify a final design as part of the proposed action.**
- 34 2.25 Worst Case Scenario-Given the level of uncertainty associated with long-term performance assessment, DOE needs to include a worst-case scenario. A worst case scenario is required when there are gaps in relevant information and scientific uncertainty pertaining to an agency's evaluation of significant adverse impacts on the human environment, an agency must make clear that such information is lacking or that the uncertainty exist. **Even at the time of licensing uncertainty and unavailable information may exist. It is vital to describe a worst-case scenario. The worst-case scenario should include varying assumptions about critical group populations such as distance from the repository, greater groundwater and withdrawals and use, which are not necessarily consistent with siting guidelines. A worst-case scenario should also include variations in repository performance which have a impact on the rate of release and transport of radioactive materials and the describe the likelihood of occurrence.**

Section 3.0

- 35 3.1. Section 3.1.1.4 Since this is not an issue why include it in Chapter 3.
- 36... **3.2. Using a generic description of national transportation modes and routes does not adequately address transportation in Nevada. Most importantly, Nevada**

- 36 cont. **and other western states, specifically Utah, will have the largest number of shipment miles. DOE needs to more fully describe affected areas with the greatest number of shipment miles (I-15) corridor.**
- 37 3.3 Pg. 3-52 and Pg. 3-53 needs a figure showing ground water flow directions, depths, and aquifers. A figure should also show other groundwater wells used in the area.
- 38 3.4 Groundwater section-There appears to be no discussion of baseline conditions associated with underground weapons testing program. This needs to be included in the DEIS. **The DEIS does not account for all sources of chemically toxic constituents in groundwater, including documented background conditions (e.g. barium, manganese), and contributions from the Nevada Test Site.**
- 39 3.5 The groundwater section also needs a thorough discussion of groundwater users in the region of influence including the type and amount of use. Future water demands estimates should be described **with low, medium and high growth scenarios and not assume that the population does not grow. The DEIS concludes that Amargosa Valley area population in 10,000 years will be the same as in 1990.**
- 40 3.6 Groundwater section needs a map showing different aquifer systems in the region of influence.
- 41 3.7 Groundwater section needs a figure showing all springs in the area and a discussion of the relationship of the springs to the various aquifers, if any. There is also a need to describe baseline information on water chemistry in the region of influence.
- 42 3.8 **The DEIS needs to consider future water demands for dairy cattle in the Amargosa Valley. Milking cows require about 150 gallons per day (consumptive and non-consumptive use). Also there appears to be little information about livestock water consumption (10 gallons per day per milking cow) and the distribution of milk product produced in the Amargosa Valley. With the increasing populations of the southwest, it is possible for more dairies to move to the Amargosa area.**
- 43 3.8 Pg 3-95 The low-income population definition appears to be substantially different than the readily acceptable definition most government agency use. Low income is typically 50 percent of the area's median income. Very few areas in the country would probably qualify as low income under the DOE definition. Please explain this deviation.
- 44 3.9 Pg 3-98 The baseline description along transportation routes in Nevada is inadequate and is poorly characterized.
- 45... 3.10 Pg. 3-99 Section 3.2.2 Why does the DEIS provide a different level of analysis for truck and rail routes. This section states, " The discussion of national transportation

45 cont.

modes and routes in Section 3.2.1 addresses the affected environment for legal weight truck transportation ... including travel in Nevada". DOE needs to describe likely routes for both rail and truck and discuss communities and other areas likely to be impacted.

46 3.11 Section 3.2.2.1. The Baseline Description in the DEIS does not provide for the following:

- Outdoor recreation use
- Appropriate visual analysis including visual characteristics of surrounding lands
- Specific land uses residential, commercial, agricultural
- Mining claims and activity-patented mining claims
- Grazing-allotment, name of permit holder, season of use, total aums

Land use maps showing types of ownership and uses along the routes should be included in the DEIS. Simply referencing other BLM documents is not sufficient. Lander County is not in the Tonopah Resource Area. All of the aforementioned resources and uses need to be shown on maps with discussion of various resources. Did any DOE staff or contractors actually visit the areas along proposed routes? Please identify the resource expert and the type of site visits made.

47 3.12 Section 3.2.2.1 Did any member of the EIS team make site visits and site investigations for the various rail corridor alternatives? If yes, please explain the nature of the investigations?

48 3.13. Sections 3.2.2.1.2 There is no climate description for Northern Nye and Lander Counties.

49 3.14 How can DOE analyze a potential rail line through the Nellis Range when there is little or no chance that the Department of Defense will grant a right of way application? Please explain if this is a viable alternative. | Was the Department of
115 Defense a cooperating agency? Has DOD refused to allow DOE access to lands under their control? |

50 3.15 Throughout Chapter 3 DOE repeatedly references other EISs or other documents for more specific information. In certain circumstances, the referenced information is important to the review of the action. It is questionable whether DOE has met the intent of 40CFR1502.21. Reference by incorporation is made when the effect will be to cut down on bulk without impeding agency and public review.

51... 3.16 Section 3.2.2.1.3.1 contains two small paragraphs and a table of surface waters for 5 alternative rail corridors. This section needs to have maps which show the location of surfaces waters in relationship to corridors, flow and discharge information, uses of

- 51 cont. the water permitted or otherwise, and flood plain information, and information on recharge.
- 52 3.17 Pg. 3-107 Biological Resources-its appears from the description that the Nevada Division of Wildlife nor the U.S.F.W.S were consulted. Big Game habitats and other important habitats within the corridor need to be described and identified. In relationship to proposed corridors.
- 53 3.18 Pg. 3-114 Section 3.2.2.1.6 These areas generally have low unemployment.
- 54 3.19 **There is no information about community baseline health studies, which describe existing conditions of local residents affected by past weapons testing at NTS. How can DOE assess the human health impacts of transportation activities without knowing the current condition of area residents?**
- 55 3.20 **There is little or no information about existing highway transportation facilities, their capacity, width, pavement condition, shoulders, etc. How can DOE assess the impacts of truck transportation on state and local highways without understanding the current highway infrastructure conditions?**
- 56 3.21 **The DEIS needs to describe baseline conditions along rail routes in northern Nevada. There is no information about corridor conditions along the northern route. Why?**
- Section 4**
- 57 4.1 Pg. 4-1 Preconstruction Performance confirmation period. How can DOE suggest that performance confirmation will determine with reasonable assurance that the repository would meet performance objectives. Does DOE have a reasonable assurance now? If not why not? **Will DOE have a contingency plan in the event that preconstruction performance confirmation activities have negative results? Because DOE cannot guarantee the repository will actually provide containment and that an extended period of performance confirmation will continue, the EIS needs to describe as part of the preferred alternative contingency actions.**
- 58 4.2 Pg. 4-2 How long will it take to construct the repository including all the emplacement tunnels? **What is the total estimated cost of construction?**
- 59 4.3 Pg. 4-4 Repository design is not conceptual-its is unproven. DOE at this point cannot prove that any of the design alternatives can meet licensing standards. DOE cannot even demonstrate with models or otherwise that their design alternatives can work.
- 60 4.4 Pg. 4-5 Section 4.1.1.1 what are the impacts?

61 4.5 Pg. 4-12 Section 4.1.2.3.2 Should the analysis consider a possible release scenario at
the surface handling facility including the potential for and the consequences thereof?

62 4.6 A worst-case scenario needs to be included as part of the impact analysis.

63 4.7 Pg. 4-1 to 4-60 describes the activities but makes little or no judgment about the
significance of impacts. There needs to be more conclusions about the information
in the DEIS.

64 4.8 Table 4-35 what does the information in this table mean? Are the results adverse?

65 **4.9 Pg. 4-98 Describes short-term impacts from the retrieval contingency yet the
proposed action does not include such action. Why? The contingency action
needs to be completed described in the proposed action.**

66 **4.10 To be consistent with the no-action alternative (scenario 2), the DEIS must
describe impacts from the loss of institutional control. The analysis of the
contingency must also describe the costs to manage waste in this form
indefinitely and who would be responsible for the cost. Maintaining waste on-
site at Yucca Mountain would be similar to the no-action alternative-deep
geologic storage would be the preferred option. Please explain the**

Section 5.0

67 5.1 Pg. 5-1 1st par. states, "The chapter also describes the peak radiation dose during the
first 1.0 million years after closure". This is currently not possible with any level of
assurance. DOE needs to explain the level of uncertainty and how it might impact
performance assessment and the related environmental impacts.

The analysis in Chap. 5 cannot be substantiated at this time. DOE does not have a
performance assessment process in place that is currently capable of predicting
impacts associated with any thermal load design alternative. Without the capability to
predict future performance, DOE cannot determine with any certainty the
environmental impacts of long-term repository performance.

114 Almost 95 percent of waste containment is now being attributed to the waste package.
DOE must include a discussion of information about waste packaging materials,
which supports a level of performance capable of meeting the regulatory standard.

68... 5.2 Pg. 5-1 par 2 states, "Therefore, analysis of impacts to land use, noise,
socioeconomics, cultural resources, surface water resources, aesthetics, utilities, or
services after closure is not required." Given that the actual consequences of long-
term repository performance is unknown, dismissing impacts to these resources is

68 cont. inappropriate at this time. These resource impacts may be relevant under a worst case scenario.

69 5.3. DOE has recently dropped the high thermal load alternative as a possible final design option for Yucca Mountain. If this is true why did the DEIS consider it to be a viable thermal load alternative? Is the analysis in the DEIS with respect to the high thermal load alternative still accurate? What can DOE say about the accuracy of other design scenarios and the boundary analysis?

70 5.4 Throughout the DEIS, DOE has relied upon boundary analysis to determine a range of possible impacts. If the performance assessment process is currently unable to accurately predict possible long-term repository performance, and the high thermal load alternative is no longer viable, does the analysis in chapter 5 still depict a reasonable range of impacts? Please explain.

71 5.5 The cumulative impact analysis considers a repository with much higher volumes of waste. This scenario should be included in Chapter 5 and not the cumulative impact section. Congress did limit the amount of waste that could be stored in the repository. However, by including a high waste volume scenario in the cumulative impact section assumes that laws will be changed to accommodate a greater amount of waste. If
112 such an assumption is made for the cumulative impact analysis why couldn't it be made for the proposed action? Furthermore, an EIS can consider other alternatives not specifically authorized by Congress.

113 5.6 DOE needs to provide a table in Chapter 5 which describes basic assumptions and key performance attributes of the repository system.

72 5.7 Again a worst-case scenario needs to be included in the analysis of long-term repository performance. Potential impacts to resources such as land use, consumptive water use, impediments to growth and loss of property values need to be considered if the worst-case scenario shows a potential for radioactive waste contamination to exceed regulatory levels.

Section 6.0

73... 6.1 Pg. 6-1 3rd par. states, " Although it is uncertain...., as well as the choice of alternative transportation corridors".

With respect to alternate rail corridors to Yucca Mountain, it is questionable whether DOE even has the authority to select such a corridor given that the majority of lands within the various alternative corridors are public lands under the management authority of the Bureau of Land Management (BLM). It is at least arguable that the selection of rail route alternatives and specific alignments are subject to BLM's own environmental

- 73 cont. review and permitting process because they ultimately have the authority to grant a right-of-way for construction and operation. We are uncertain as to what level of review or consultation took place with BLM as the alternative corridors were being developed. It does not appear that they are a cooperating agency. The final EIS should explain efforts to coordinate the review and selection of a proposed alternative route with BLM..
- 74 Contrary to the statements made on page 6-1, the DEIS does not provide sufficient site specific analysis of impacts which would allow for a detailed comparison among route alternatives and ultimately the selection of one alternative corridor. The DEIS contains a host of generalized statements about resources and potential impacts along alternate rail corridors.
- Important elements about specific routes are needed to select modes and routes. They include:
- Cost of implementation of each alternative
 - Conditions of shipments such as escorts, dedicated trains, etc.
 - Other federal agency consultation
 - Logistics and planning implementation
 - Site specific impacts
- 75 6.2 General Comment National Transportation - Latent cancer fatalities under incident-free transportation are much lower for rail than truck shipments. Are these finding sufficient to select rail as the preferred shipment mode? If not why not?
- 76 6.3 Section 6.1.2.6 needs more complete description of the terms in the tables of this section.
- 77 6.4 Pg. 6-23 Needs to describe the numbers in Table 6-5 and discuss their implications.
- 78 6.5 Pg. 6-35 4th par states, " Because the state of Nevada has not designated preferred routes... Does this statement mean that the preferred alternative for highway route in the EIS would be I-15? If no, please explain.
- 79 6.6 Pg 6-36 looks only at disturbed lands and not lands which are surrounding the corridors, which could be impacted.
- 80 6.7 Pg. 6-38 Section 6.3.1 states, "As a consequence, impacts to land use...would not be large. With respect to land use, what process or methodology did DOE use to determine that impacts would not be large? Did DOE consider impacts to real estate development and values along the proposed route?
- 81... 6.8. Pg 6-31 The types of comparisons on this page are inappropriate. They are cumulative impacts-because cancers occur from other sources does not mean the

- 81 cont. number of latent cancer fatalities from train or truck shipments is insignificant. With the comparisons to national cancer rates, even a 1,000 latent cancer fatalities associated with repository shipments could be insignificant.
- 82 6.9 Pg. 6-35 Does not adequately look at transportation activities in Nevada. High-level waste routes entering at I-80. The national and local analysis avoids this reality. The DEIS needs to discuss areas impacted.
- 83 6.10 Why not include other counties in the socioeconomic section? What makes Clark, and Lincoln different except for the possibility of employment opportunities? How are the impacts from transportation different? The northern Nevada rail route crosses through several large urban areas. About 80 percent of Elko County's population lives within the Humboldt River corridor and adjacent to the existing rail line.
- 84 6.11 Pg. 6-22 It does not appear that DOE considered the greater waste volume scenario in its transportation analysis, why? This should be part of the proposed action.
- 85 6.12 Pg. 6-14 There is no discussion of aesthetic or visual impacts along the proposed rail corridors. Simply showing the VRM classifications for public lands is not acceptable. More importantly it is the views from surrounding mountains and inhabited areas of the proposed rail line, which are impacted. There are numerous high quality well used recreation areas along the proposed route. DOE needs to consider visual impacts from surrounding lands and prepare a full visual resource analysis.
- 86 6.13 Pg. 6-19 DOE needs to include an analysis of the highway system most likely to be used for waste shipments. The analysis needs to show both the total number of shipments and the estimated volume of waste passing through the area. This is particularly important in western states where the waste stream begin to funnel into one or two major highways. Also, DOE needs to show a comparison of likely rail and truck shipment routes with similar information.
- 87 6.14 Pg. 6-37 needs to discuss socioeconomic impacts related to land values, recreation use, and the cost to implement and manage emergency response training at the local the local level.
- 88 6.15 DOE has not considered impacts to grazing allotments, mining, recreation use, and hunting. Are there any patented mining claims within the proposed rail corridor.? How will DOE compensate mining claim holders? How many animal units months will be lost? What will DOE do to maintain access to water and movement of livestock in and around the rail corridor? What are BLM's standard operating procedures for rights of way, construction and operation?
- 89 6.16 pg 6-61 DOE needs to identify the location of springs, total discharge of water, use of water, and any mitigation measures to ensure users are not affected. DOE needs to show significant wetlands and riparian areas in and along rail routes.

- 90 6.17 Pg. 6-64 needs to identify the towns, community areas and other populations directly and indirectly affected by the construction and operation of a rail line to Yucca Mountain.
- 91 6.18 For each rail corridor alternative, how many highway and road crossing will be made? Will DOE build above grade structures to ensure that rail operations do not interfere with highway traffic? Has DOE consulted NDOT about the encroachment upon state highway rights-of-way? Grade crossings should be included as part of the proposed action and committed mitigation in the EIS.
- 92 6.19 What types of animal habitat will be affected. Has DOE consulted with the U.S.F.W.S for T&E plant and animal species? Has DOE consulted with the Nevada Division of Wildlife for impacts to game and non-game wildlife? If not, why not?
- 93 6.20 Pg 6-41 Maximum Accident-should be based upon shipment miles. Also not all states or portions of the nation will be affected equally. [The analysis should attempt to show regions of the nation most heavily impacted for each mode under the incident free conditions.]
- 94
- 95 6.21 Pg. 6-62 Construction of a rail line would require ballast and fill. How much is needed and where will DOE acquire it? DOE needs to describe how they will reclaim areas.
- 96 6.22 Heavy haul truck options. There is no indication of roadway wear and the cost to upgrade and maintain this type of facility. Will DOE commit to roadway and other improvements needed? Is the Nevada Department of Transportation a cooperating agency on this DEIS? Has DOE discussed the infrastructure improvements needed for a heavy haul route?

Section 7.0.

- 97 7.1 Pg. 7-7 The loss of institutional control after 100 years is not realistic and should not be used in the no-action alternative. All alternatives in the DEIS must be capable of being implemented. This alternative is not because DOE would not implement it..
- 98 7.2 The no-action alternative provides more details about specific proposals than the action alternative does. Why?
- 99 7.3 Pg. 7-1 states that neither alternative is likely. If this is true why analyze the impacts. The no-action alternative like other alternatives must be capable of being implemented. Please explain. If it is unlikely to be chosen it cannot accurately reflect the range of possible impacts.

Section 8.0

- 100 8.1 Modules 1 and 2 nearly double the amount of waste shipped to Yucca Mountain-but no additional latent cancer fatalities. Please explain how this can occur. Wouldn't it be reasonable to assume additional latent cancer fatalities would occur with an increase in shipments?
- 101 8.2 What is the cumulative impact associated with all transportation including low and high level shipments within areas affected by NTS weapons testing programs? The DEIS needs to discuss the areas of impacted by weapons testing program, a range of possible impacts and whether or not high-level radioactive waste shipments would contribute to additional human health impacts.
- 102 8.3 The cumulative impact analysis does not consider the collective impact of all actions taken together. Instead it looks at only the proposed action with one other action at a time. This approach does not compile with CEQ regulations. Please explain.
- 103 8.4 The cumulative analysis must assume loss of institutional control to be parallel with the analysis in the no-action alternative.
- 104 8.5 The cumulative analysis section needs to clearly show the total number of past, present and future radioactive waste shipments to and from NTS. A risk assessment needs to be completed for all shipments and clearly articulated in the EIS.
- 105 8.6 The cumulative impact analysis needs to include impacts from underground weapons testing programs on the area's aquifer system.

Section 9.0

- 106 9.1 Much of the mitigation in Chapter 9 should be included in the proposed action.
- 107 9.2 Groundwater- this section has nothing to do with mitigation. None of the discussion has to do with mitigation. Some level of contingency plans should be included in this section. Appropriate mitigation should also include long-term monitoring procedures for areas aquifers. A discussion of possible adverse impacts and human health impacts should be included in the EIS.
- 108 9.3 None of the discussion in the long-term performance section has much to do with mitigation. It has more to do with site selection., design, and defense in depth. Without these measures it is doubtful that DOE would even have a proposed action, which could meet regulatory standards.

109 9.4 Transportation mitigation needs to include the following:

- Efforts to monitor impacts to land values and development.
- Specific contingency plans for spill situation that describe roles, responsibilities and financial assistance.
- Mitigation assistance to local communities for emergency response capabilities, management and training.
- Measures to monitor and compensate for loss of visitors or other related economic development associated with transportation and repository development.
- Specific transportation mitigation measures such as escorts, dedicated trains, time of day restrictions, etc.
- Specific measures to accommodate heavy haul trucks, highway improvements, roadway maintenance and financial assistance committed by DOE.

110 9.5 DOE needs to establish a committee of potentially affected areas to review and monitor transportation shipments and potential impacts similar to the Transportation Protocol Working Group established by DOE-NVO. The group could also address issues related to emergency response and management, risk perceived impacts, and whether they actually materialize and other issues.

111 **9.6 There is no analysis of or mitigation measures for impacts to local emergency management and emergency response capabilities. The EIS needs to describe the types of capabilities needed to be in place at the local level and then determine the appropriate actions and funding needed to ensure adequate preparation.**